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### REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

### Status of Claims

Claims 1 - 12 are pending in the application. Claims 1 - 12 have been rejected. New Claims 13 - 15 have been added. Applicants respectfully submit that the amendments add no new matter. Claims 1 - 9 and 11 - 12 have been voluntarily amended in order to correct grammatical and typographical errors. These amendments do not narrow the scope of the claims nor are they being made to overcome the 103 and 102 rejections.

The amended claims are not subject to the complete bar against the use of the Doctrine of Equivalents as outlined in *Festo Corporation v. Shoketsu Kinsoku Kogyo Kapushiki Co., Ltd. a/ka/ SMC Corporation and SMt Pneumatics, Inc.*, as the amendments do not narrow the scope of the claims.

### CLAIM REJECTIONS

#### 35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 1 - 6 and 8 - 12 under 35 U.S.C. § 103(a), as being unpatentable over **Lin** (US 6,528,557) in view of **Martin et al.** (US 2003/0082633) and **Santo et al.** (US 5,965,252). Applicants respectfully traverse this rejection in view of the remarks that follow.

An obviousness rejection requires a teaching or a suggestion by the relied upon prior art of all the elements of a claim (M.P.E.P. §2142).

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Claim 1 recites: "*molecules of material capable of undergoing a polymerization reaction under the influence of microwave radiation*".

Claim 8 recites: "*molecules capable of undergoing polymerization reaction under microwave radiation*".

It is respectfully submitted that none of Lin, Martin et al. and Santo et al teaches, suggests, or implies, alone or in combination, all the elements of claims 1 and 8. In particular, none of Lin, Martin et al. and Santo et al teaches, suggests, or implies, alone or in combination, at least "*molecules of material capable of undergoing a polymerization reaction under the influence of microwave radiation*", as recited in claim 1 and at least "*molecules capable of undergoing polymerization reaction under microwave radiation*", as recited in claim 8.

These references are discussed below.

Lin (US 6,528,557)

In the Office Action, the Examiner contended that Lin teaches an ink comprising molecules of material capable of undergoing a polymerization reaction under the influence of a microwave radiation. Applicants respectfully disagree. Lin teaches an ink composition comprising water and a linear ASBS'A' block copolymer (see the examples of claims 16-17 of Lin). A copolymer is a polymer derived from more than one species of monomers, for example A, B, and A' and as such does not undergo polymerization.

Furthermore, Lin discloses that "*optional heating of the print substrate can be carried out at any stage of ink jet printing... with any desired or effective heating method, including .. radiant heating, heated plate, heated belt, heated roller, heated drum, microwave device, hot air, or the like*". It is clear from the description above that the possible use of microwave device is for reducing the drying time by accelerating the rate of water evaporation. Accordingly, it is respectfully asserted that Lin does not teach or suggest the features of claims 1 and 8 described above.

Accordingly, Lin does not teach or suggest "*molecules of material capable of undergoing a polymerization reaction*".

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Martin et al. (US 2003/0082633)

Martin is directed to an improved process and apparatus for accelerating the rate of specific chemical reactions. The reactions can be accelerated on special chips that contain materials that efficiently absorb microwave energy. At paragraph 10, Martin disclosed the use of microwave absorbing particles to enhance the heating of a bulk solution. For example, a dispersed cobalt and magnetite nanoparticles were used as microwave absorbers to heat a bulk xylene solution.

It is obvious that Martin is not related to the field of inks and as such the combination of Lin and Martin is improper. However, even if the combination was proper, Martin does not teach or disclose at least "*molecules of material capable of undergoing a polymerization reaction under the influence of said microwave radiation*", as recited in claim 1 or at least "*molecules capable of undergoing polymerization reaction under microwave radiation*", as recited in claim 8.

Accordingly, Martin cannot cure the deficiencies of Lin.

Santo et al. (US 5,965,252)

Santo is directed to a printing medium comprising an ink-receiving layer, which comprises an alumina hydrate surface treated with a coupling agent (see Abstract). In the Office Action, the Examiner contends that at column 19 from line 3, Santo teaches "a thermal initiator being activated by heat generated by said microwave radiation energy". Applicants respectfully disagree.

Column 19, lines 3-5 recite: "a photo-induced polymerization initiator and/or a heat-induced polymerization initiator for polymerizing the polymerizable compound". Santo is silent as to "a thermal initiator being activated by heat generated by said microwave radiation", as recited by claim 1. Additionally, the polymerizable compound taught by Santo is a coating used to form the ink-receiving layer on the substrate.

As can be seen Santo is not related to the field of inks and as such the combination of Lin and Martin is improper. However, even if the combination was proper, Martin does not teach or disclose at least "*molecules of material capable of undergoing a polymerization reaction under the influence of said microwave radiation*", as recited in claim 1 or at least

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*"molecules capable of undergoing polymerization reaction under microwave radiation", as recited in claim 8.*

Accordingly, Santo cannot cure the deficiencies of the combination of Lin and Martin.

Based on the discussion above, applicant respectfully submits that claim 1 is allowable. Claims 2 – 5 and 9 – 12 depend directly or indirectly from one of claims 1 and 8 and include all the limitation of the parent claim as well as additional distinguishing elements. Therefore, claims 2 – 5 and 9 – 12 are patentable for at least the reasons discussed above with regard to claims 1 and 8. Accordingly, Applicants respectfully submit that the rejections of claims 1 – 6 and 8 be withdrawn.

#### **Claim 6**

Claim 6 recites: *"irradiating by microwave radiation said printed image bearing pattern such that said image bearing pattern is cured by heat generated by said microwave radiation"*.

It is respectfully submitted that none of Lin, Martin et al. and Santo et al teaches, suggests, or implies, alone or in combination, all the elements of claim 6. In particular, none of Lin, Martin et al. and Santo et al teaches, suggests, or implies, alone or in combination, at least *"irradiating by microwave radiation said printed image bearing pattern such that said image bearing pattern is cured by heat generated by said microwave radiation"*, as recited in claim 6.

It should be noted that in the Specification, at page 9, paragraph 48, the term "curing" is defined as follows: "application of the microwave radiation may initiate polymerization (curing) reaction that results in a polymerized ink film."

Based on the discussion above, applicants respectfully submit that claim 6 is allowable and request that the rejection be withdrawn.

#### **Claim 7**

In the Office Action, the Examiner rejected claim 7 under 35 U.S.C. § 103(a), as being unpatentable over Lin (US 6,528,557) in view of Martin et al. (US 2003/0082633),

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Santo et al. (US 5,965,252), and Chou et al. (US 5,322,751). Applicant respectfully traverses this rejection in view of the remarks that follow.

Claim 7 recites: "*printing ... on said optically reflecting substrate*".

Claim 7 further recites: "*irradiating by microwave radiation said printed image bearing pattern such that said image bearing pattern is cured by heat generated by said microwave radiation and said microwave radiation is not reflected by said substrate*".

The combination of Lin, Martin and Santo was discussed above and this discussion is applicable here.

Chou is directed to (i) a metallic toner fluid composition, (ii) a method of electrophoretically depositing metallic toner fluid composition particles on a substrate, (iii) a method of metal plating, (iv) a method of transferring electrophoretically deposited toner fluid composition particles or metal plating from a primary receiving substrate to a secondary receiving substrate and (v) an article bearing a metallic coating (see column 1, lines 9 – 17)

As can be seen Chou is not related to the field of inks and as such the combination of Lin and Chou is improper. However, even if the combination was proper, Chou does not teach or disclose at least "*irradiating by microwave radiation said printed image bearing pattern such that said image bearing pattern is cured by heat generated by said microwave radiation*", as recited in claim 7.

Accordingly, Chou cannot cure the deficiencies of the combination of Lin, Martin and Santo.

It is respectfully submitted that none of Lin, Martin et al., Santo et al and Chou et al. teaches, suggests, or implies, alone or in combination, all the elements of claim 7. In particular, none of Lin, Martin et al., Santo et al teaches and Chou et al., suggests, or implies, alone or in combination, at least "*irradiating by microwave radiation said printed image bearing pattern such that said image bearing pattern is cured by heat generated by said microwave radiation*", as recited in claim 7.

It should be noted that in the Specification, at page 9, paragraph 48, the term "curing" is defined as follows: "application of the microwave radiation may initiate polymerization (curing) reaction that results in a polymerized ink film."

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Based on the discussion above, applicants respectfully submit that claim 7 is allowable and request that the rejection be withdrawn.

#### NEW CLAIMS

Applicants have added new dependent claims 13 – 15. Applicants respectfully assert that no new matter has been added.

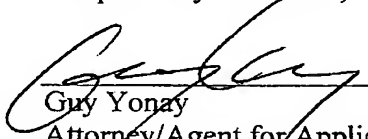
#### CONCLUSION

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,

  
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